

**REQUEST FOR REDESIGNATION OF EAST  
HELENA LEAD NONATTAINMENT AREA  
&  
APPROVAL OF EAST HELENA ATTAINMENT  
AREA MAINTENANCE PLAN**



Photo Courtesy of Lisa Kunkel, Helena Independent Record

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Developed By:  
The Montana Department of Environmental Quality  
Air Quality Bureau

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## ACRONYMS

ASARCO	American Smelting and Refining Company
American Chemet	American Chemet Corporation
Ash Grove	Ash Grove Cement Company
CAA	Federal Clean Air Act
DEQ	Montana Department of Environmental Quality
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
FR	Federal Register
GEP	good engineering practice
km	kilometer(s)
LLP	Limited Liability Partnership
MAAQs	Montana Ambient Air Quality Standard(s)
MAQP	Montana Air Quality Permit
NAA	Nonattainment area
NAAQS	National Ambient Air Quality Standard(s)
NAD27	North American Datum 1927
NAD83	North American Datum 1983
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PM <sub>2.5</sub>	particulate matter of 2.5 microns or less
PSD	Prevention of Significant Deterioration
ppb	parts per billion
ppm	parts per million
RACM	reasonably available control measures
RFP	reasonable further progress
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
TIP	transportation improvement programs
tpy	tons per year
UTM	Universal Transverse Mercator
µg/m <sup>3</sup>	micrograms per cubic meter

**REQUEST FOR REDESIGNATION OF THE EAST HELENA LEAD  
NONATTAINMENT AREA  
&  
APPROVAL OF THE EAST HELENA ATTAINMENT AREA MAINTENANCE PLAN**

**1.0 INTRODUCTION**

On October 5, 1978, the United States Environmental Protection Agency (EPA) promulgated the first primary and secondary national ambient air quality standard (NAAQS) for lead in 43 Federal Register (FR) 46246. The primary and secondary standards were set to the same level of 1.5 micrograms of lead per cubic meter ( $\mu\text{g}/\text{m}^3$ ) of air, averaged over a calendar quarter.

Ambient air monitoring of lead from 1977 to 1981 in East Helena recorded violations of the NAAQS. On November 6, 1991, EPA designated the East Helena area which included the city of East Helena and part of Lewis and Clark County as nonattainment for lead, effective January 6, 1992 (56 FR 56694), based on historical ambient monitoring data showing violations

On June 18, 2001, EPA partially approved and partially disapproved the East Helena lead control plan (66 FR 32760). Montana was not required to revise those portions not approved. Therefore, EPA did not pursue sanctions or a federal implementation plan clock under the Clean Air Act (CAA) Section 179(a) and 110(c). More importantly, in 66 FR 32760 II.D., EPA declares that,

“we have determined that the East Helena (lead) nonattainment area has attained the (lead) NAAQS through calendar year 1999.....this does not eliminate the State’s responsibility under the Act to continue to implement the requirements of the approved (lead) SIP.....the area will remain designed as nonattainment until the State has requested, and we approve the State’s require, for redesignation to attainment. In order for an area to be redesignated to attainment, the State must comply with the requirements provided in sections 107(d)(3)(E) and 172(a) of the Act.”

The lead control plan in the SIP addressed emissions from ASARCO, re-entrainment of fugitive dust, and American Chemet. ASARCO and American Chemet are the only two permitted industrial facilities in the East Helena NAA.

In 2008, EPA lowered the primary and secondary lead NAAQS by 10-fold. The new lead standard was set at 0.15 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) on a rolling 3-month average for both the primary and secondary standards. On November 22, 2011, EPA designated the whole state of Montana as ‘unclassified/attainment’ (76 FR 72097). This designation became effective on December 31, 2011, and can be found in 40 CFR 81.327. So, although East Helena still carries a ‘nonattainment’ designation with the 1978 standard, East Helena was not designated as ‘nonattainment’ for the lower 2008 lead NAAQS.

With this action, DEQ is formally requesting redesignation of the East Helena NAA to ‘attainment’ according to the provisions of section 107(d)(3)(E) of the CAA and providing for maintenance of the lead NAAQS according to the applicable provisions of section 175A of the CAA. Additionally, DEQ is requesting the 1978 lead NAAQS be revoked for East Helena and parts of Lewis and Clark County as the area is in compliance with the standard.

## 1.1 Background

The first industrial source in the area was a lead smelter owned and operated by the Helena and Livingston Lead Smelting Company. In 1898, ASARCO purchased the ten-year-old lead smelter from the Helena and Livingston Lead Smelting Company. This smelter site was situated on 160 acres along Prickly Pear Creek and the small town of East Helena grew up around it. The smelter operated for over 100 years until it was shut down on April 4, 2001.

Monitoring for lead in East Helena showed violations of the first lead NAAQS following their adoption in 1978. The department began an extensive study that included a chemical mass balance technique to identify specific sources and processes within the ASARCO facility and the East Helena community that were contributing to the lead impacts. It was determined that the most significant sources of lead were from the ASARCO primary lead smelter. Additionally, re-entrained road dust from the surrounding community of East Helena was a contributing source of lead, and to a lesser degree, the American Chemet facility (66 FR 32760).

The two industrial sources in East Helena share a property boundary. ASARCO, the larger industrial source is immediately south of American Chemet and is a manufacturer of copper and zinc products. American Chemet began construction of its facility in the late 1940's and continues to operate today. American Chemet manufactures metal (copper and zinc) based chemicals.

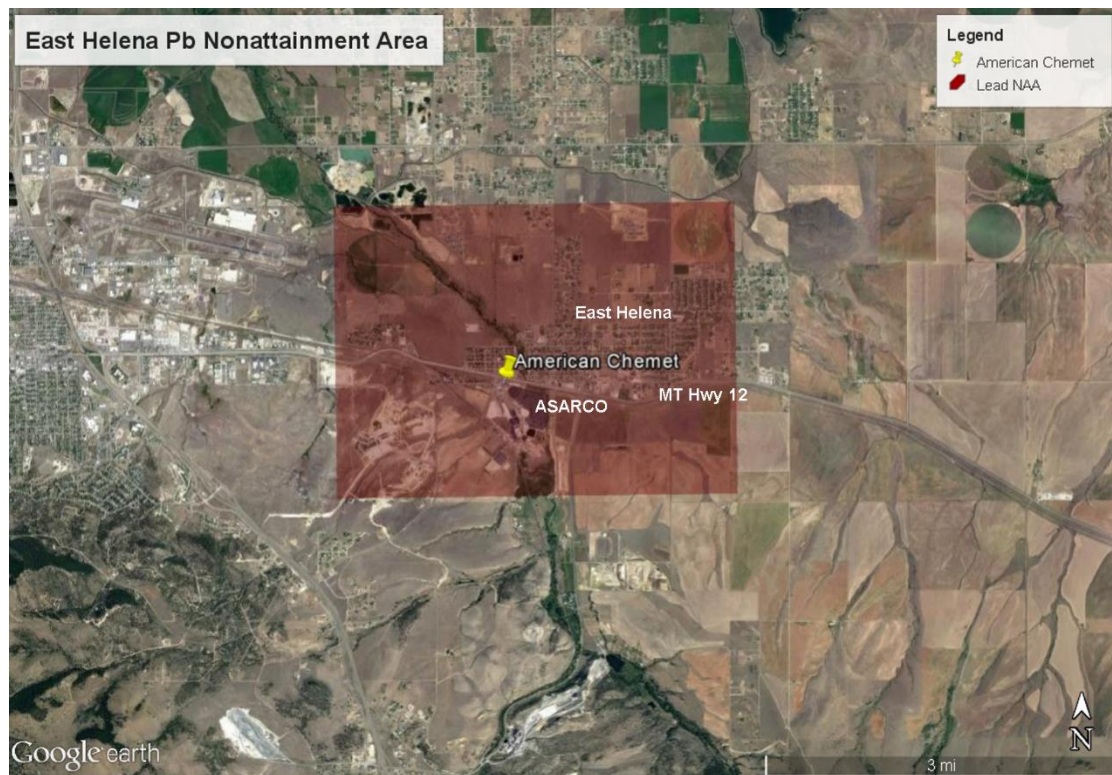
Figure 1.1 shows the close proximity of ASARCO (now Montana Environmental Trust Group LLC) and American Chemet with adjacent property boundaries.



**Figure 1.1- Aerial Photograph of the American Chemet and ASARCO Facilities before Demolition**



**Figure 2 - East Helena Lead NAA and Surrounding Area**





As shown in Figure 1.2 above, the ASARCO smelter and American Chemet are located just south of the residential neighborhoods of East Helena and Montana Highway 12. In 1991, when the NAA was first established, the residential neighborhoods of East Helena did not extend beyond the NAA boundary as now shown in Figure 1.2.

In 1983, the department submitted the original lead control strategy to EPA, known as the 1983 Lead SIP. This 1983 lead SIP required ASARCO to control fugitive dust sources, including the ore storage piles and roads in and out of the facility. ASARCO was also required to install an air control system on the #1 blast furnace and enclose the top of both blast furnaces and ventilate the exhaust to the baghouse. Street sweeping was required in the lead control plan, including on Montana Highway 12 and within the city of East Helena. American Chemet has no requirements in the 1983 lead control plan. After EPA approved the plan in 1984 (49 FR 57327), the plan was expected to bring East Helena into compliance with the federal lead standard. Although all control strategies were implemented by the end of 1986, East Helena continued to exceed the federal lead NAAQS.

In 1988, EPA declared the lead control plan inadequate and the department would have to revise it. In 1991, EPA designated the East Helena area as a NAA for lead (56 FR 56694). On August 4, 1995, Montana submitted a revised lead control plan to EPA that utilized a dispersion modeling analysis. The 1995 lead control plan revised the emission control strategy for ASARCO from the 1983 lead control plan. Area fugitive emissions from re-entrained road dust, automobile exhaust, wind erosion of barren ground and agricultural tillage continued to be a part of the control strategy in the plan. Restrictions were needed on American Chemet this time to be able to demonstrate compliance through dispersion modeling. The #1 Copper Furnace Baghouse Stack, also referred to as the pyrometallurgical [pyromet] process baghouse stack, was restricted at American Chemet to ensure attainment and maintenance of the lead NAAQS in the East Helena NAA.

Emissions in the 1995 control plan were from the study year July 1, 1990 through June 30, 1991. ASARCO lead emissions were estimated at a total of 41.8 tpy (reported as 83,559.9 pounds per year) and the community fugitive emissions were estimated as 7.8 tpy (15,567.1 pounds per year) as found on pages 25.11.3(10) and (11) in the SIP. American Chemet's current permit, MAQP #1993-19, allows for 0.0616 tpy (123 pounds per year).

During this time, there were concerns at a national level about impacts from emissions of lead from vehicle exhaust caused by lead in vehicle fuel. Federal regulations reduced the allowed amount of lead in gasoline by 90 percent in 1986. Then in 1995, EPA completely removed lead in gasoline. These federal changes benefited the community of East Helena and its lead NAA.

On April 4, 2001, ASARCO shutdown the lead smelter operations. In August 2009, the three large stacks of the smelter were razed, following the dismantling of much of the smelter facility. All that remains at the old ASARCO site today is the large slag pile, which is deemed to be inert, and water treatment ponds. All buildings, equipment, and associated emission points have physically been destroyed and removed from the smelting facility. Through bankruptcy proceedings in 2009, the property was transferred to the Montana Environmental Trust Group, LLC. On December 9, 2009, ASARCO requested revocation of their final air quality permit. The site is an active superfund site, with no development possible until cleanup is complete.

On June 18, 2001 (66 FR 32760), EPA determined East Helena to be in attainment, as stated in the most recent East Helena area implementation plan. On November 22, 2011, East Helena was designated unclassifiable/attainment for the 2008 lead standard (76 FR 72097). At that time, EPA determined that "the 1978 standard will remain in effect until a maintenance SIP for the 2008 NAAQS is approved by the EPA."

In September 2013, the Montana Air Quality Permit (MAQP) for ASARCO was revoked, and ASARCO's Title V permit expired on April 15, 2007. Any new industrial operations on the former ASARCO site would be required to go through new source review permitting before construction.

Most recently, on March 28, 2018 in 83 FR 13196, EPA approved changes to the American Chemet facility in the SIP. These changes were requested in 2013 and are for changes to the "lead in feed" rate. EPA determined that the requested changes do not change American Chemet's SIP emission limits and modeling indicated that it will not interfere with the 2008 Lead NAAQS.

The request for resignation and subsequent maintenance plan address ASARCO and American Chemet emissions and the possibility of new sources in the nonattainment area. These sources have been addressed in numerous EPA actions, including multiple revisions to the SIP and a demonstration of attainment in 2001.

## **1.2 East Helena Lead Nonattainment Area Geographical Boundaries**

The East Helena lead NAA is located in southern Lewis and Clark County. The NAA is defined as a rectangle that includes both the community of East Helena and unincorporated portions of southern Lewis and Clark County as specified in 56 FR 56792. The NAA rectangle is a bit larger than 2 miles by 3 miles in area and encompasses the city of East Helena in 1991, but the city has since grown outside the NAA as shown above in Figure 1.2. The NAA boundaries are defined as:

- Northern boundary – horizontal UTM 5162000 mN;
- Eastern boundary – vertical UTM 432500 mE;
- Southern boundary – horizontal UTM 5158000 mN; and
- Western boundary – vertical UTM 427000 mE.

(mE and mN denotes meters Easting and meters Northing, respectively)

## **2.0 REQUEST FOR EAST HELENA NONATTAINMENT AREA REDESIGNATION TO ATTAINMENT**

Sections 107, 110, and Part D of the CAA establish the requirements that must be met before a NAA can be considered for redesignation to attainment. Guidance from the September 4, 1992 Calcagni Memo for *Procedures for Processing Requests to Redesignate Areas to Attainment* and applicable provisions of the CAA, provide the basis for redesignation and maintenance of the 1978 lead NAAQS within the East Helena NAA.

Section 107(d)(3)(E) of the CAA lists the specific requirements to be met for an area to be redesignated to attainment, which include:

- A determination that the area has attained the lead NAAQS standard;
- An approved SIP for the area under Section 110(k) of the CAA;
- A determination that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the SIP and other federal requirements;

- A fully-approved maintenance plan under Section 175A of the CAA; and
- A determination that all Section 110 and Part D requirements of the CAA have been met.

The October 18, 2000 Seitz Memo for *Redesignation of Sulfur Dioxide Nonattainment Areas in the Absence of Monitored Data* was reviewed and found to not be appropriate for aspects this analysis. The memo states “The Environmental Protection Agency’s (EPA) historic redesignation policy for SO<sub>2</sub> has called for 8 quarters of clean ambient air quality for redesignation to attainment.... However, EPA believes that is not a reasonable use of limited monitoring resources to reestablish monitors in order to collect at least 4 quarters data in areas where violations of the SO<sub>2</sub> NAAQS were caused by sources that no longer operate.” This is not the case with the East Helena Lead NAA. As will be shown in the analysis in the document, this area has monitoring data, showing compliance with both the lead standard. This monitoring took place while the identified sole source of the Lead Violations was still operating. This analysis provides the appropriate demonstration using traditionally approved methodologies to show attainment of the standard and continued maintenance of the standard. The Seitz Memo goes on to state “This guidance memorandum does not impose binding, enforceable requirements on any party, and may not apply to a particular situation based upon the circumstances. The EPA retains the discretion to adopt approaches to addressing maintenance plan provisions that differ from this guidance where appropriate.” The East Helena Lead NAA is an area that does not fit into the circumstances outlined within this document. As will be shown within this document, this redesignation request and maintenance plan employs the appropriate discretion in addressing maintenance plan provisions that differ from the guidance in the Seitz Memo.

This section of the document addresses each of these requirements and demonstrates that the area has attained and will maintain compliance with the 1978 lead NAAQS.

## 2.1 CAA §107(d)(3)(E)(i) - Determination that the Area Has Attained the Lead Standards

EPA has determined that the East Helena Lead nonattainment area has attained the lead NAAQS, based on air quality data in the AIRS database as of June 18, 2001. (66 FR 32760)

## 2.2 CAA §107(d)(3)(E)(ii) - Approved implementation plan for the area under Section 110(k).

The East Helena area implementation plan was last modified through approval by EPA on June 18, 2001 (66 FR 32760). This action partially approved and partially disapproved changes requested to the East Helena lead control plan. The intended effect of this action made federally enforceable the provisions that EPA partially approved and did not make federally enforceable those provisions that EPA partially disapproved. The East Helena lead control plan has federally enforceable requirements for the ASARCO lead smelter, strategies for reducing re-entrainment of road dust by street sweeping, and through federally enforceable requirements pertaining to American Chemet. This control plan can be found in Volume III, Chapter 25.11 of the SIP.

## 2.3 CAA §107(d)(3)(E)(iii) - Determination that the Improvement in Air Quality is Due to Permanent and Enforceable Reductions in Emissions Resulting from Implementation of the SIP and Other Federal Requirements

### SIP Provisions

EPA determined East Helena to be in attainment, as stated in the most recent East Helena area implementation plan, approved by EPA on June 18, 2001 (66 FR 32760). The determination states the “area has attained the lead national ambient air quality standard through calendar year 1999.”

The document also states that the determination is based on air quality data through June 18, 2001. According to the requirements of section 107(d)(1)(A)(i) and 107(d)(1)(B)(i) and (ii) of the CAA, in establishing the final NAA boundary (see Section 1.2 above) EPA determined that the ASARCO facility was the major contributing facility located within the East Helena NAA (June 18, 2001 (66 FR 32760)). To a smaller extent re-entrained fugitive road dust and American Chemet emissions impacted the NAA. The current control plan was last modified and approved in 2001.

In 2001, ASARCO discontinued its smelting operation and by 2009, ASARCO formally ended their operations by having removed the industrial equipment and buildings, felling the remaining three large stacks, letting their Title V operating permit #OP2557-04 expire in 2007, and formally revoking their MAQP #2557-12 in 2009 (See APPENDIX A). At the time ASARCO revoked their MAQP #2557-12 in 2009, the ASARCO smelter property ownership was transferred to the Montana Environmental Trust Group LLC. The only remaining permitted industrial source in East Helena's NAA is the American Chemet facility.

Any new major industry in or near East Helena that is interested in emitting lead emissions would be required to submit a new source review permit application demonstrating they will not have a significant ambient impact on the area. Should American Chemet want to change their operations and emit an additional 0.6 tpy or more of lead emissions, they too would be required to go through a major new source review permitting process to obtain an amended permit from the DEQ and make a demonstration that lead emissions would not significantly impact the East Helena NAA.

This demonstrates that the improvement in air quality in the East Helena NAA is due to permanent and federally enforceable reductions in lead emissions which complies with CAA §107(d)(3)(E)(iii).

#### 2.4 CAA §107(d)(3)(E)(iv) - Fully Approved Maintenance Plan Under CAA Section 175A

This request for redesignation is being submitted concurrently with a Maintenance Plan, as allowed under EPA's April 23, 2014, *Guidance for 1-Hour SO<sub>2</sub> Nonattainment Area SIP Submissions* (see page 65, Section VIII(E)). This memo addresses the situation in East Helena where the major sources of NAA emissions is no longer operating. And although the memo was written for SO<sub>2</sub> NAA situations, EPA indicated they believed the approach was appropriate for the lead NAA of East Helena. Section 3.0 of this document addresses the necessary Maintenance Plan elements. When EPA approves this plan, the area will have a fully approved Maintenance Plan providing for continued attainment of the lead NAAQS for 10 years.

#### 2.5 CAA §107(d)(3)(E)(v) - Determination that the Department has Met all Requirements Applicable to the Area Under Section 110 and Part D of the CAA

Prior to redesignation, a state containing a NAA must demonstrate compliance with all requirements applicable to the area under Section 110 and Part D of the Act. This means the state must meet all requirements that applied to the area prior to, and at the time of, the submission of a complete request for redesignation to attainment.

#### CAA Section 110

Section 110(a) of the CAA contains the general requirements for a SIP. Only Section 110 requirements that are linked with a particular area's designation are the relevant measures to consider in evaluating a redesignation request. Further, the DEQ believes that the other Section 110 elements that are not connected with nonattainment plan submissions and not linked with an area's attainment status are also not applicable requirements for purposes of

redesignation, as a state remains subject to these requirements after an area is redesignated to attainment. The requirements of CAA Section 110(a)(2) that are statewide requirements and that are not linked to the lead nonattainment status of the East Helena NAA are therefore not applicable requirements for purposes of review of the DEQ's redesignation request. The EPA has previously approved provisions of the DEQ's SIP addressing Section 110 requirements, including those addressing lead. These 1995 SIP revisions addressed the lead NAAQS and demonstrated compliance with the requirements "applicable to the area" under CAA Section 110. CAA Section 110(a)(2) contains the general requirements or infrastructure elements necessary for EPA approval of the SIP. These requirements include, but are not limited to, submittal of a SIP that has been adopted by the state after reasonable notice and public hearing. The approved SIP described above meet these requirements.

#### Part D, Plan Requirements for Nonattainment Areas (CAA section 171, et seq.)

CAA Part D contains requirements applicable to all areas designated nonattainment. lead NAAs must meet the general provisions of Subpart 1 and the specific lead provisions in Subpart 5. The Maintenance Plan (see Section 3.0) associated with this request for redesignation of the East Helena NAA is a SIP revision for an area designated as a NAA and the Maintenance Plan shall meet the applicable requirements of Part D of the CAA.

#### CAA Section 172

These provisions contain the general requirements to be included in SIP revisions for NAAs. These include attainment demonstrations, reasonably available control measures (RACM), reasonable further progress (RFP), inventory data, and permitting requirements.

Finally, submittal of a comprehensive lead emissions inventory is required by 40 CFR 51.1008 to meet the requirements of Section 172(c)(3) of the CAA. The East Helena NAA lead emissions inventory, which also serves as the attainment year inventory, is being submitted as part of the Maintenance Plan (Section 3.0), and therefore, is submitted concurrently with this request for redesignation.

#### CAA Section 173

These provisions outline the requirements related to permitting of air pollution sources in NAAs. Stationary sources of air pollution are subject to the applicable regulations of the ARM, Title 17, Chapter 8. These regulations include:

- Standards of Performance for New Stationary Sources (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs) promulgated by EPA (July 1, 2015 edition of CFR, Montana Incorporation by Reference effective 10/15/16, ARM 17.8.102);
- Permit, Construction, and Operation of Air Contaminant Sources (ARM, Title 17, Chapter 8, Subchapter 7);
- Prevention of Significant Deterioration of Air Quality (ARM, Title 17, Chapter 8, Subchapter 8);
- Permit Requirements for Major Stationary Sources or Major Modifications Locating Within Nonattainment Areas (ARM, Title 17, Chapter 8, Subchapter 9);



- Preconstruction Permit Requirements for Major Stationary Sources or Major Modifications Locating Within Attainment or Unclassified Areas (ARM, Title 17, Chapter 8, Subchapter 10); and
- Annual Emission Statements and required emissions reporting (ARM 17.8.505).

These permitting, stationary source monitoring and reporting, preconstruction review, offset ratios and enforceable emission limitations requirements were adopted to implement the federally mandated requirements in Sections 110, 172, 173 and 182(a) of the CAA. EPA has approved these regulations as SIP revisions, as indicated in Table 2.1, below.

TABLE 2.1 - State of Montana Federally Approved Air Quality Rules

State Rule(s)	Federal Action	Action Reference
ARM 17.8.101 et seq.	Approved	60 FR 36715
ARM 17.8.701 et seq.	Approved	60 FR 36715
ARM 17.8.801 et seq.	Approved	60 FR 36715
ARM 17.8.901 et seq.	Approved	60 FR 36715
ARM 17.8.1001 et seq.	Approved	60 FR 36715

#### CAA Section 176(c)

These provisions prohibit federal financing of projects or activities that do not conform to an approved SIP. The DEQ adopted and incorporated EPA's conformity rule under 40 CFR Part 93, on June 13, 2004, at ARM 17.8 Subchapter 13. The conformity regulation describes procedures to determine if federally-financed, non-transportation projects are in conformity with air quality plans.

#### Subpart 5, Additional Provisions for Areas Designated Nonattainment for Sulfur Oxides, Nitrogen Dioxide, or Lead:

East Helena has an approved Control Plan as required by section 191(a) for the lead NAAQS. This Control Plan controlled lead emissions from ASARCO and American Chemet in East Helena's NAA. Therefore, the DEQ has met the requirements of Subpart 5 of the CAA. Further, as required under section 191(b) of the CAA, the DEQ has fully-approved NSR, Prevention of Significant Deterioration (PSD), and Part D permitting programs (60 FR 36715).

## 2.6 Redesignation Request

With this action, the DEQ is formally requesting a redesignation of the East Helena lead NAA to attainment. The criteria applicable to redesignation are addressed in Section 2.0 of this document above. Concurrent with the request for redesignation, the DEQ is providing for maintenance of the lead NAAQS according to the applicable provisions of section 175A of the CAA (see Section 3.0 below).

## 3.0 EAST HELENA NONATTAINMENT AREA LEAD MAINTENCE PLAN

On November 6, 1991, East Helena and a portion of Lewis and Clark County was designated nonattainment for the 1978 quarterly lead NAAQS. Based on quality assured monitoring data collected at lead monitors around East Helena from 1999 through 2001, the East Helena NAA was

shown to have attained compliance with the 1978 quarterly lead NAAQS. Additionally, the fact that ASARCO was identified as the major source responsible for lead emissions causing the NAA designation, and since 2001 ASARCO has discontinued operation and eventually has let its air quality permits expire and be revoked, the 1978 lead NAAQS level are no longer endangered. On June 18, 2001, (66 FR 32763) EPA stated that:

“The attainment date for East Helena was January 6, 1997. We make the attainment determination for nonattainment area based solely on an area’s air quality data. Based on the air quality data currently in the AIRS database and pursuant to section 179(c)(1) of the Act, we have determined that the East Helena (lead) nonattainment area has attained the (lead) NAAQS through calendar year 1999.”

Section 2.0 of this document includes the DEQ’s formal request for redesignation according to the requirements of section 107(d)(3)(E) of the CAA. In order for the East Helena NAA to be formally redesignated to attainment, the DEQ must submit, and the EPA must approve, a SIP revision providing for maintenance of the lead NAAQS within the affected area for at least 10 years after redesignation. Although this request is for lead, DEQ has developed this Maintenance Plan in support of the DEQ’s request for redesignation according to EPA’s April 23, 2014, “Guidance for 1-hour SO<sub>2</sub> Nonattainment Area SIP Submissions,” EPA additional guidance received from EPA’s Region 8 Air Quality Planning Unit, and the requirements of section 175A of the CAA. In a letter to DEQ on May 12, 2005 (see Appendix B) EPA discussed that following the October 18, 2000 guidance document meant for SO<sub>2</sub> NAA would suffice for the East Helena lead NAA redesignation request. The letter requested we advise EPA of our intent to ensure headquarters and other regions agree with this interpretation. DEQ has been in communication with Region 8 regarding this submission and is following this guidance.

This Maintenance Plan addresses the following elements:

- Attainment Inventory,
- Maintenance Demonstration,
- Monitoring Network,
- Verification of Continued Attainment, and
- Contingency Plan.

### 3.1 Attainment Inventory

According to the requirements of section 107(d)(1)(A)(i) and 107(d)(1)(B)(i) and (ii) of the CAA, in establishing the final NAA boundary EPA determined that ASARCO and American Chemet were the only industrial facilities causing or contributing to the lead NAAQS violation within the East Helena NAA. The East Helena lead NAA was determined to be meeting the 1978 lead standard on June 18, 2001 (66 FR 32760).

The Control Plan (66 FR 32760) indicates that in 1991 there was a potential for annual lead emissions to reach 41.8 tpy in the NAA between the ASARCO facility and American Chemet, 41.8 tpy and 0.0616 tpy, respectively. In 2001, the last partial year of operation, ASARCO emitted 2.2153 tpy of lead and American Chemet only 0.0005 tpy. This was less than 95 percent of the emissions used in the approved 1995 Control Plan that demonstrated compliance with the lead NAAQS.

Table 3.1 lists the actual lead emissions from the two industrial sources in the East Helena NAA from 2013 through 2017 as well as the lead emissions from both Ash Grove and the Helena

Regional Airport, both outside of the Nonattainment area. This data represents the previous 5 years of available data from the industrial activity. The closure of ASARCO represents more than a 99.999 percent reduction of lead emissions in the NAA and a greater than 99.8 percent reduction when including all sources in the area. This is a clear and acceptable demonstration that the NAA is in attainment.

TABLE 3.1 - Lead Actual Emissions from 2013 through 2017 (tpy)

Standard	2013	2014	2015	2016	2017
<b>ASARCO</b>	NA <sup>2</sup> (41.8)	NA <sup>2</sup> (41.8)	NA <sup>2</sup> (41.8)	NA <sup>2</sup> (41.8)	NA <sup>2</sup> (41.8)
<b>American Chemet</b>	0.0019	0.0028	0.0021	0.0024	0.0023
<b>Ash Grove</b>	0.0087	0.0073	0.0085	0.0075	0.0071
<b>Airport Emission (NEI)</b>	NA	0.09	NA	NA	NA

<sup>1</sup>Based on the Annual Emission Inventory Data collected by Montana's Department of Environmental Quality.

<sup>2</sup>NA - not applicable, because ASARCO no longer was permitted for emissions. The values in the parenthesis represent the documented values from the 1995 Attainment plan.

The estimated lead emissions from American Chemet for the next 10 years are estimated to be 0.0616 tpy, based on MAQP #1993-19, Table IV.A which are based on continuous operation of 8,760 hours per year. As shown in Table 3.2, there are no anticipated changes to the potential emissions by the DEQ for the next 10 years.

TABLE 3.2 – Estimated Lead Emissions from 2018 through 2027 (tpy)

Standard	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>American Chemet<sup>1</sup></b>	0.0616	0.0616	0.0616	0.0616	0.0616	0.0616	0.0616	0.0616	0.0616	0.0616
<b>Ash Grove<sup>2</sup></b>	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
<b>Aircraft Emissions<sup>3</sup></b>	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09

<sup>1</sup>Based on potential emissions from continuous operation (8,760 hours per year) of American Chemet's facility in Table IV.A of MAQP #1993-19.

<sup>2</sup>Ash Grove does not have a lead limit in its permit. The value shown in this table represents the average of the last 5 years.

<sup>3</sup>Aircraft emissions are taken directly from the 2014 National Emissions Inventory (NEI). The values in this table represent the 2014 NEI values assuming they stay stagnant.

The annual potential to emit from American Chemet represent less than 1 percent of the 1995 Control Plan emissions. The current allowed emissions inside the NAA are more than 99.99 percent less than those in the 1995 Control Plan. Based on these projected emissions, it is demonstrated that the East Helena NAA will continue to remain in compliance with the 1978 lead primary and secondary standards because of the significant reduction of lead emissions from the 1995 Control Plan.

### 3.2 Maintenance Demonstration

According to the June 18, 2001 approved SIP (66 FR 32760), East Helena has attained the 1978 lead NAAQS. ASARCO stopped operations of the smelter in April 2001 and by 2009 had completely removed the smelter facility. ASARCO allowed its Title V operating permit OP2557-04 to expire on April 5, 2007 and ASARCO requested that its MAQP #2557-12 be revoked on December 9, 2009 (see Appendix A) when it transferred ownership of the property to the Montana Environmental Trust Group LLC. Without a valid permit, no major source of lead emissions is allowed on the old ASARCO property.

The DEQ has longstanding and fully SIP-approved major NSR and minor source permitting programs promulgated under ARM Title 17, Chapter 8, Subchapters 7, 8, 9, and 10. These administrative rules include provisions for the PSD, approved by 60 FR 36715. In conjunction with all SIP-approved requirements of ARM, Title 17, Chapter 8, Subchapter 8, the DEQ's SIP-approved PSD permitting program under ARM 17.8.820, Source Impact Analysis, requires "(1) The owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions (including secondary emissions), *would not cause or contribute to air pollution in violation of any national ambient air quality standard in any air quality control region or any applicable maximum allowable increase over the baseline concentration in any area.*" (emphasis added)

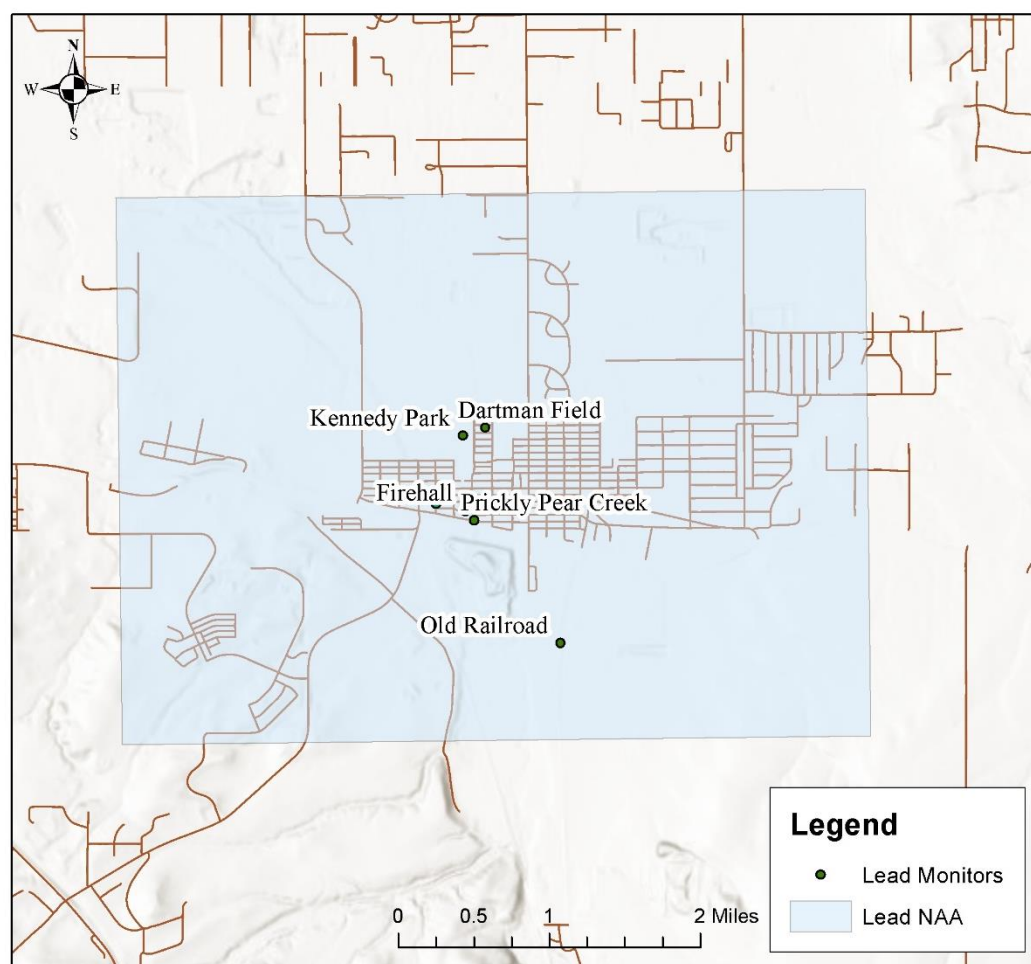
Further, in conjunction with all SIP-approved requirements of ARM, Title 17, Chapter 8, Subchapter 7, the DEQ's SIP-approved minor source permitting program at 40 CFR 52.1370 includes a provision at ARM 17.8.749, Conditions For Issuance or Denial of Permit, requiring "(3) A Montana air quality permit may not be issued for a new or modified facility or emitting unit unless the applicant demonstrates that the facility or emitting unit can be expected to operate in compliance with the Clean Air Act of Montana and rules adopted under that Act, the Federal Clean Air Act and rules promulgated under that Act (as incorporated by reference in ARM 17.8.767), and any applicable requirement contained in the Montana State Implementation Plan (as incorporated by reference in ARM 17.8.767), *and that it will not cause or contribute to a violation of any Montana or national ambient air quality standard.*" (emphasis added)

The DEQ will continue to implement its SIP-approved major and minor source permitting programs in the East Helena maintenance area to ensure that any new or modified (or reopened) industrial source of lead emissions will not cause or contribute to a subsequent lead NAAQS violation in the area. Further, any appropriate changes to the ARM will be submitted to U.S. EPA for approval as a SIP revision.

### 3.3 Monitoring Network

DEQ operated several lead monitors within the East Helena NAA (Figure 3.1). The maximum quarterly average of available data between 1999 and 2001 are shown in Table 3.3. The highest quarterly average in the three years prior to the shutdown of ASARCO was 1.12  $\mu\text{g}/\text{m}^3$ . With the closure of the primary source causing or contributing to the 1978 lead NAAQS violations, all monitoring was discontinued following the closure of ASARCO in 2001. Although monitoring commonly occurs during and after a NAA is redesignated, there was no justifiable reason to resume monitoring in East Helena following the closure of ASARCO. With the smelter facility and its associated stacks having been removed from the plant site, and the permits for air quality emissions are no longer valid, 99.99% of the lead emissions in the NAA are gone. Therefore, no ambient monitoring is proposed to demonstrate compliance with the lead NAAQS in this monitoring plan.

**Figure 3 - East Helena Lead NAA and Five Lead Ambient Monitoring Sites that Operated Until May 2001**



**TABLE 3.3 – Monitoring Results from East Helena Lead Monitors. Maximum Quarterly Average (1999-2001) ( $\mu\text{g}/\text{m}^3$ )**

Kennedy Park		Firehall	Dartman Field	Old RR	Prickly Pear
1.06		1.12	0.71	0.42	1.02

As previously stated, any new source locating within the NAA must show that it does not cause or contribute to a violation of the NAAQS. In the event that a major source of lead locates within the former NAA and the source modeling indicates that the lead impacts are greater than 75 percent of the NAAQS including background, the source will be required to install appropriate lead monitoring for a period of no less than 3 years to assure that the NAAQS are adequately protected within the NAA.



### 3.4 Verification of Continued Attainment

EPA has demonstrated attainment based on monitoring until ASARCO was no longer in operation (66 FR 32760). The DEQ has also demonstrated continued attainment with the projected emissions which will be below values emitted at the time attainment was demonstrated. The NAA has a lead emission potential of less than 99.99 percent of the 1995 Control Plan emissions and the primary source the Control Plan identified as causing the violations is completely gone. This unique situation should clearly indicate there will be continued attainment in the East Helena NAA.

### 3.5 Contingency Plan

As required by Section 175A(b) of the CAA, the DEQ will submit to EPA, eight years after redesignation, an additional revision of this Maintenance Plan. This revision will contain the DEQ's plan for maintaining the lead NAAQS for 10 years beyond the first 10-year maintenance period following redesignation.

Since there are no large sources of lead emissions remaining in the NAA from the original 1995 Control Plan and ambient monitoring was discontinued in East Helena when ASARCO shutdown, the contingency plan will focus on new sources or modifications of existing permitted sources.

As discussed in Section 3.2 of this document, any new source planning to locate within the maintenance area or existing source proposing a significant increase in lead emissions would be subject to Montana's SIP-approved major NSR and minor source permitting programs promulgated under ARM Title 17, Chapter 8, Subchapters 7, 8, 9, and 10. These permitting programs require a demonstration of NAAQS compliance prior to construction and operation of the source.

#### 4.0 PUBLIC PARTICIPATION

According to the applicable requirements of 40 CFR 51.102, Public Hearings, the DEQ must provide the affected public with notice, opportunity for comment, and the opportunity to request a hearing regarding the DEQ's request for redesignation and associated Maintenance Plan for the East Helena lead NAA.

On June 8, 2018, the DEQ issued a 30-day public notice meeting all of the above referenced public participation criteria. Also, a public hearing was held on DATE, during the public notice period, which concluded on DATE. No public comments were received during the public comment period or at the hearing. A transcript of the DATE public hearing is included in Appendix C for reference.

Or

On DATE, 2018, the DEQ issued 30-day public notice meeting all of the above referenced public participation criteria. Also, a public hearing was held on DATE, during the public notice period, which concluded on DATE. Public comments were received during the public notice period. These comments and the DEQ's responses as well as a transcript of the DATE public hearing are included in Appendix C for reference.

#### 5.0 CONCLUSION

In 2001, EPA determined East Helena to be in attainment with the 1978 lead standard. Monitoring data from 1998 through 2001 shows compliance with these standards during the last 2 years of ASARCO's operation. Actual emissions since then were much less than emissions in the 1995 Control Plan. Projected emissions over the next 10 years are not expected to increase. Potential emissions over the next 10 years are less than 1 percent of the emissions from the 1995 Control Plan and ensure compliance with the lead NAAQS.

Further, the DEQ has demonstrated compliance with all applicable provisions of the CAA for the redesignation and maintenance of the lead NAAQS in the former East Helena NAA. Documentation to that effect is contained herein.

Therefore, the DEQ hereby requests formal redesignation of the East Helena lead NAA to attainment (see Section 2.0) concurrent with EPA approval of the associated Maintenance Plan (see Section 3.0) ensuring ongoing lead NAAQS compliance in the area. The DEQ is also requesting that the 1978 lead NAAQS be revoked for East Helena as the area is in compliance with the standard.

## 6.0 REFERENCES

- American Chemet Corporation, <http://www.chemet.com/about-us/history/> December 22, 2017.
- Baird, Kennon, Helena As She Was, [http://www.helenahistory.org/east\\_of\\_helena.htm](http://www.helenahistory.org/east_of_helena.htm) December 22, 2017.
- Byron, Eve, 2009. *Asarco to exit Montana today*, Independent Record, December 9, 2009. ([http://helenair.com/news/asarco-to-exit-montana-today/article\\_b2570348-e490-11de-a25e-001cc4c03286.html](http://helenair.com/news/asarco-to-exit-montana-today/article_b2570348-e490-11de-a25e-001cc4c03286.html))
- EPA, 2018. 83 FR 13196. *Approval and Promulgation of Air Quality Implementation Plans; State of Montana; Revisions to East Helena Lead SIP*, March 28, 2018 <https://www.gpo.gov/fdsys/pkg/FR-2018-03-28/pdf/2018-06109.pdf>
- EPA, 2014, OAQPS, *Memorandum: Guidance for 1-Hour SO<sub>2</sub> Nonattainment Area SIP Submissions*, April 23, 2014. [https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance\\_nonattainment\\_sip.pdf](https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf)
- EPA, 2011. 76 FR 72097, *Air Quality Designations for the 2008 Lead (Pb) National Ambient Air Quality Standards*, November 22, 2011. <https://www.gpo.gov/fdsys/pkg/FR-2011-11-22/pdf/2011-29460.pdf>
- EPA, 2001, 66 FR 32760. *Clean Air Act Approval and Promulgation of Air Quality Implementation Plan; Montana; East Helena Lead State Implementation Plan*, June 18, 2001. <https://www.gpo.gov/fdsys/pkg/FR-2001-06-18/pdf/01-15142.pdf>
- State of Montana, 2015. Department of Environmental Quality Air Resources Management Bureau. *2015 Air Monitoring Network Assessment*, July 2015.

## **APPENDIX A**

**Letters from Baker Botts, LLP Requesting Revocation of MAQP #2557-12 and  
DEQ Revoking MAQP #2557-12**

## **APPENDIX B**

**EPA Letter to DEQ allowing Lead NAA to Follow the Guidance for SO<sub>2</sub> NAA Whose Major Point Sources of SO<sub>2</sub> Emissions are No Longer in Operation**



## **APPENDIX C**

### **Transcript of Public Hearing, Comments and the DEQs Response**